

### **REMARKS/ARGUMENTS**

In view of the following remarks, reexamination and reconsideration of this application, withdrawal of the rejections, and formal notification of the allowability of all claims as presented are earnestly solicited. Claims 1-18 are pending. In response to the Office Action, Claims 1-3 and 10-12 have been amended. The amendments find support throughout the Specification and the Drawings, and no new matter has been added. As presented herein, it is believed that the pending claims define patentable subject matter over the references cited by the Examiner and notice to such effect is requested at the Examiner's earliest convenience.

#### **Claim Rejections - 35 U.S.C. §103**

Examiner has rejected Claims 1-18 under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,417,460 to Cheng ("Cheng") in view of U.S. Patent No. 5,718,039 to Saida *et al.* ("Saida") and in further view of common knowledge. In response, Claims 1-3 and 10-12 have been amended to more particularly highlight patentable subject matter. More particularly, Independent Claim 1 and corresponding Independent Claim 10 have been amended to recite that **the third conductive layer is at least about 50 percent thinner than said first conductive layer and said second conductive layer.** Furthermore, Claim 2, and corresponding Claim 11 have been amended to recite that **the fourth conductive layer is at least about 50 percent thinner than said first conductive layer and said second conductive layer.** Finally, Claim 3, and corresponding Claim 12 have been amended to recite that **the fifth and sixth conductive layers are at least about 50 percent thinner than said first conductive layer and said second conductive layer.** Support for the amendments is found throughout the as-filed specification such as, for example, at page 9, lines 10-16. Accordingly, no new matter has been added.

Thus, Claims 1-3 and 10-12 now specifically recite that each of the third, fourth, fifth and sixth conductive layers **105, 107, 109, 111**, respectively, are thinner, such as by at least 50%, than the first, second, seventh and eighth layers **101, 103, 113, 115** that comprise respective interconnect structures (such as, for example, via **120**). The recited combination of thicknesses of the various conductive layers (and particularly the placement of thinner conductive layers on

the interior of the PWB) facilitate the thinning and flexibility of the PWB, while the thicker outer conductive layers **101, 103, 113, 115** of the interconnect structures provide the desired reliability in electrical connectivity. See, specification at page 9, lines 13-16 and Figures 2 and 3.

In contrast, **neither Saida nor Cheng**, alone or in combination, **teach or suggest the thickness relationship between the inner conductive layers** (such as the recited third, fourth, fifth and sixth conductive layers **105, 107, 109, 111**, for example) **and the outer conductive layers** (such as the recited first, second, seventh and eighth layers **101, 103, 113, 115**, for example), of a printed wire board structure as now recited in amended Claims 1-3 and 10-12. Furthermore, Saida **teaches away** from the recited thickness relationship between the inner and outer conductive layers by disclosing **only** embodiments (see Saida at Figure 3 and at Figure 6) **where the outer conductive layers (B1, B1', B7', and B7) are substantially thinner than the inner conductive layers (B2, B2', B3, B3', B4, B4', B5, B5', B6, B6') of the printed wire board (2, 2')**. While Cheng generally discloses that the copper foils "have a thickness of preferably 9-100  $\mu\text{m}$ , more preferably 12-35  $\mu\text{m}$ ," **Cheng does not disclose, teach or suggest a particular arrangement of conductive layers** in a printed wire board structure such that the inner conductive layers are at least about 50 percent thinner than the outer conductive layers of the printed wire board.

In summary, **the recited thickness relationship between the inner conductive layers is not disclosed in either Cheng or Saida**. Furthermore, even if one were to properly combine the teachings of Cheng and Saida, **the proposed combination would fail to teach or suggest the recitations** of the claims of the present application. In addition, **both Cheng and Saida teach away from the provision of inner conductive layers** (such as the recited third, fourth, fifth and sixth conductive layers **105, 107, 109, 111**, for example) **that are at least about 50 percent thinner than the outer conductive layers** (such as the recited first, second, seventh and eighth layers **101, 103, 113, 115**, for example), as now recited in Claims 1-3 and 10-12 of the present application. Claims 4-9 and 13-18 depend from and include all the recitations of Claims 1-3 and 10-12, respectively. Thus, Applicants respectfully submit that Claims 4-9 and 13-18 are also patentable over the cited references for at least the reasons stated above.

### **CONCLUSION**

In conclusion, Cheng and Saida, alone or in combination, **do not** teach, suggest, or provide motivation for the embodiments of the present invention, as claimed in Claims 1-3 and 10-12 and the claims depending respectively therefrom. Accordingly, in view of the above differences between the Applicant's invention and the cited references, the Applicant submits that the present invention, as defined by the pending claims, is patentable over the references cited in the Office Action. As such, for the reasons set forth above, the pending claims 1-18 are believed to be in condition for immediate allowance and notice to such effect is respectfully requested at the Examiner's earliest opportunity.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR §1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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